

Claims

[c1] 1. A data cartridge library comprising:

- a frame that defines an interior space;
- a data cartridge magazine, operatively attached to said frame and located within said interior space, for providing a plurality of data cartridge storage spaces;
- a drive, operatively attached to said frame and located within said interior space, for writing data onto a recording medium located within a data cartridge and/or reading data from a recording medium located within a data cartridge;
- a picker that is capable of grasping a data cartridge, releasing a grasped data cartridge, inserting a grasped data cartridge into a data cartridge storage space in said data cartridge magazine, inserting a grasped data cartridge into said drive, retracting a grasped data cartridge from a data cartridge storage space in said data cartridge magazine, and retracting a grasped data cartridge from said drive;
- an elevator for moving said picker such that said picker can perform grasping, retracting and inserting operations in the moving of a data cartridge between any one of said data cartridge storage spaces and said drive; and

a transport support structure;
wherein said elevator is operatively connected to said transport support structure;
wherein said picker is operatively connected to said elevator;
a user-actuatable connector that allows a user: (a) to attach a transport module comprising said transport support structure, at least a portion of said elevator, and said picker to said frame; and (b) to detach said transport module from said frame.

- [c2] 2. A data cartridge library, as claimed in claim 1, wherein:
said frame comprises an exterior surface; and
a portion of said exterior surface is capable of being displaced by a user so as create an opening with sufficient dimensions to allow said transport module to be inserted into and removed from said interior space.
- [c3] 3. A data cartridge library, as claimed in claim 1, wherein:
said user-actuatable connector comprises:
a first connector portion that is operatively associated with said frame; and
a second connector portion that is operatively associated with said transport support structure.

- [c4] 4. A data cartridge library, as claimed in claim 3, wherein:
said first connector portion comprises a flange.
- [c5] 5. A data cartridge library, as claimed in claim 3, wherein:
said first connector portion comprises a plurality of flanges.
- [c6] 6. A data cartridge library, as claimed in claim 3, wherein:
said second portion comprises a screw.
- [c7] 7. A data cartridge library, as claimed in claim 3, wherein:
said second portion comprises a captured screw.
- [c8] 8. A data cartridge library, as claimed in claim 1, wherein:
said transport module comprises an electric motor of said elevator.
- [c9] 9. A data cartridge library, as claimed in claim 1, wherein:
said transport module comprises first and second electrical motors of said elevator.
- [c10] 10. A data cartridge library, as claimed in claim 1,

wherein:

 said transport module comprises an elevator carriage
 that supports said picker.

[c11] 11. A data cartridge library, as claimed in claim 1,

wherein:

 said transport module comprises a controller.

[c12] 12. A data cartridge library, as claimed in claim 1,

wherein:

 said elevator comprises:

 an electric motor;

 an elevator carriage have a first end and a second end
 that is separated from said first end;

 a first drive system for applying a force to said first end
 of said elevator carriage; and

 a second drive system for applying a force to said sec-
 ond end of said elevator carriage.

[c13] 13. A data cartridge library, as claimed in claim 12,

wherein:

 said transport module comprises said first drive system.

[c14] 14. A data cartridge library, as claimed in claim 13,

wherein:

 said transport module comprises said electric motor.

[c15] 15. A data cartridge library, as claimed in claim 13,

wherein:

 said transport module comprises said elevator carriage.

[c16] 16. A data cartridge library, as claimed in claim 1,

wherein:

 said elevator comprises:

 an electric motor;

 an elevator carriage comprising a first end and a second end that is separated from said first end;

 a first drive system for applying a force to said first end of said elevator carriage;

 a second drive system for applying a force to said second end of said elevator carriage; and

 a shaft for transferring a force from said first drive system to said second drive system.

[c17] 17. A data cartridge library, as claimed in claim 16,

wherein:

 said transport module comprises a portion of said shaft that is less than all of said shaft

[c18] 18. A data cartridge library, as claimed in claim 17,

wherein:

 said portion of said shaft comprises a portion of a connector for connecting said portion of said shaft to another portion of said shaft.

[c19] 19. A data cartridge library, as claimed in claim 17, wherein:
said portion of a connector comprises a spline.

[c20] 20. A data cartridge library, as claimed in claim 1, wherein:
said elevator comprises an elevator carriage comprising a first end and a second end that is separated from said first end;
wherein said first end of said elevator is operatively attached to said transport support structure;
wherein said elevator further comprises a portion of a connector that allows a user to attach or detach said second end of said elevator from said frame.